WHAT IS CLAIMED IS:

1. An automated method for controlling a back reaming operation of a drilling rig, the method comprising:

providing a hoisting system that moves a drill pipe during a back reaming operation at a hoisting speed and a hoisting torque, wherein the hoisting system comprises at least one back reaming parameter sensor for measuring a corresponding at least one back reaming parameter;

comparing a predetermined value of the at least one back reaming parameter with the measured value for the at least one back reaming parameter; and

initiating a braking assembly that resists the hoisting torque of the hoisting system when the measured value of the at least one back reaming parameter equals the predetermined value of the at least one back reaming parameter.

2. The method of claim 1, further comprising providing a control system, wherein the control system compares the predetermined value of the at least one back reaming parameter with the measured value for the at least one back reaming parameter.

3. The method of claim 2, wherein the control system initiates the braking assembly when the measured value of the at least one back reaming parameter equals the predetermined value of the at least one back reaming parameter.

4. The method of claim 1, further comprising providing an operator control unit that allows an operator to input the predetermined value of the at least one back reaming parameter therein.

5. The method of claim 1, wherein providing a hoisting system comprises providing a drawworks system.

6. The method of claim 1, wherein the at least one back reaming parameter comprises at least one back reaming parameter chosen from the group consisting of rate of hoisting of the drill pipe, pull on a drill bit of the drill pipe, drilling torque applied to the drill pipe, drilling mud flow, drilling mud pressure, and formation cutting condition of mud screens within the drilling mud.

7. An automated method for controlling a back reaming operation of a drilling rig, the method comprising:

providing a drawworks system that moves a drill pipe during a back reaming operation at a hoisting speed and a hoisting torque, wherein the hoisting system comprises at least one back reaming parameter sensor for measuring a corresponding at least one back reaming parameter;

providing an operator control unit that allows an operator to input a predetermined value of the at least one back reaming parameter therein;

providing a control system that compares the predetermined value of the at least one back reaming parameter with the measured value for the at least one back reaming parameter, wherein the control system initiates a braking assembly that resists the hoisting torque of the drawworks system when the measured value of the at least one back reaming parameter equals the predetermined value of the at least one back reaming parameter.

8. The method of claim 7, wherein the at least one back reaming parameter comprises at least one back reaming parameter chosen from the group consisting of rate of hoisting

of the drill pipe, pull on a drill bit of the drill pipe, drilling torque applied to the drill pipe, drilling mud flow, drilling mud pressure, and formation cutting condition of mud screens within the drilling mud.

9. A system that controls a back reaming operation of a drilling rig, the system comprising:

a hoisting system that moves a drill pipe during a back reaming operation at a hoisting speed and a hoisting torque, wherein the hoisting system comprises at least one back reaming parameter sensor for measuring a corresponding at least one back reaming parameter;

an operator control unit that allows an operator to input a predetermined value of the at least one back reaming parameter therein;

a back reaming parameter sensor that obtains the measured value of the at least one back reaming parameter;

a control system that monitors the at least one back reaming parameter; and

a braking assembly that resists the hoisting torque of the drawworks system when the measured value of the at least one back reaming parameter equals the predetermined value of the at least one back reaming parameter.

10. The system of claim 9, wherein the control system monitors the at least one back reaming parameter by comparing the predetermined value of the at least one back reaming parameter with the measured value of the at least one back reaming parameter.

11. The system of claim 10, wherein the control system initiates the braking assembly when the measured value of the

at least one back reaming parameter equals the predetermined value of the at least one back reaming parameter.

12. The system of claim 9, wherein the hoisting system comprises a drawworks system.

13. The system of claim 9, wherein the at least one back reaming parameter comprises at least one back reaming parameter chosen from the group consisting of rate of hoisting of the drill pipe, pull on a drill bit of the drill pipe, drilling torque applied to the drill pipe, drilling mud flow, drilling mud pressure, and formation cutting condition of mud screens within the drilling mud.